

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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CAROTEK, INC.,

Plaintiff,

- v -

KOBAYASHI VENTURES, LLC; EQUAPHOR,
INC.; and JAMES DECHMAN

Defendants.

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EVENT CAPTURING SYSTEMS, INC.,

Plaintiff,

- v -

KOBAYASHI VENTURES, LLC; EQUAPHOR,
INC.; and JAMES DECHMAN

Defendants.

-----X

NAOMI REICE BUCHWALD
UNITED STATES DISTRICT JUDGE

Plaintiffs Carotek, Inc. and Event Capturing Systems, Inc. (collectively, "Carotek") filed actions, which are now consolidated, seeking, inter alia, a determination that three patents are invalid and unenforceable. Defendant Kobayashi Ventures, LLC ("Kobayashi"), then-owner of the three patents, asserted various counterclaims, including for patent infringement. Presently before us is a request by Carotek and Kobayashi to construe various claims in the three above-

MEMORANDUM & ORDER

07 Civ. 11163 (NRB)

08 Civ. 5706 (NRB)

mentioned patents: U.S. patent numbers 5,717,456 ("the '456 Patent"), 5,821,990 ("the '990 Patent"), and 6,211,905 ("the '905 Patent") (collectively, "the Patents").¹

Following briefing and a Markman hearing, we adopt the following constructions of the disputed claim terms.

BACKGROUND

Before we construe the claim terms, we briefly summarize the nature of the claimed invention and the language of the Patents.

I. The Invention

The claimed invention relates to a system for monitoring a continuous manufacturing process, which is a process that involves the uninterrupted production or handling of products.²

¹ During the pendency of this litigation, Equaphor, Inc. ("Equaphor") purchased the Patents. Kobayashi thereafter filed a motion pursuant to Rule 25(c) of the Federal Rules of Civil Procedure to substitute Equaphor as a party in the consolidated actions with respect to certain claims and counterclaims, including the infringement counterclaim. In December 2009, this Court granted Kobayashi's motion and substituted Equaphor as a party. Carotek, Inc. v. Kobayashi Ventures, LLC, No. 07 Civ. 11163 (NRB), 2009 WL 4756526 (S.D.N.Y. Dec. 2, 2009). Equaphor, as then-owner of the Patents, filed the claim construction briefs.

On December 16, 2010, after the claim construction issues were fully-briefed, Equaphor filed a petition for bankruptcy under Chapter 7 of the Bankruptcy Code. In re Equaphor, Inc., No. 10-20490-SSM (Bankr. E.D. Va. Dec. 16, 2010). In June 2011, the bankruptcy court approved the sale of certain assets from the Equaphor estate to Kobayashi, including the Patents and the rights to the infringement claim asserted in this action. After the bankruptcy court granted relief from the automatic stay, Kobayashi moved to be substituted as a counter-plaintiff in this consolidated action. On August 11, 2011, we granted Kobayashi's motion. In light of this relationship between Kobayashi and Equaphor, we refer to these entities collectively as "Kobayashi" unless otherwise indicated.

² The Patents are a related family of patents, and the disclosures contained therein are materially identical. For the sake of simplicity, we refer to

('456 Patent at col. 1, ll. 5-11.) Examples of such processes include packaging, bottling, stamping, assembling a discrete product, manufacturing webs of paper, and printing on large rolls of paper. (Id. at col. 1, ll. 13-20; id. at col. 4, ll. 29-53.) Many of these processes occur on an assembly line or other production line.

In general, a desired objective of a continuous manufacturing process is that the output have certain predetermined characteristics. Deviations from these predetermined characteristics may result in lost production time and unacceptable output. (Id. at col. 1, ll. 21-29.)

The claimed invention includes a system -- such as multiple video cameras -- for continuously monitoring production. (Id. at col. 1, ll. 54-63.) The claimed invention then converts the captured images into digitized data. (Id. at col. 1, ll. 64-65.) The data, in turn, are stored in subparts called segments and clips, which correspond to the data generated from a specific location over a specific period of time. (Id. at col. 1, ll. 66-67; id. at col. 2, ll. 1-9.) Generally, the data are stored on a first-in-first-out basis, with newly-digitized data displacing the earliest-digitized data. (Id. at col. 2, ll. 1-9.) Additionally, the claimed invention includes so-called

column and line numbers of the '456 Patent, the first-filed of the three Patents. We distinguish among the three Patents only where necessary.

control means, which are capable of responding to a signal that identifies a production deviation or problem. The control means can then extract one or more digitized data clips and form a clip to be displayed or viewed, presumably so the problem can be identified and remedied. (Id. at col. 2, ll. 10-16.)

According to the Patents, the claimed invention permits individuals to observe and monitor a production process more efficiently and effectively than using video cameras and video tape. (Id. at col. 1, ll. 30-51.)

II. Claim Language

Kobayashi alleges that Carotek is infringing on the following claims: (1) claims 1 and 5-7 of the '456 Patent; (2) claims 1-2, 4-6, 9-13, 17-25, and 27-66 of the '990 Patent; and (3) claims 1-13, 16-17, 20-21, and 23-47 of the '905 Patent.

We need not recite the language of all of the claims at issue because the disputed claims share many of the same phrases. However, claim 1 in the '456 Patent and claim 1 in the '905 Patent are representative of the claims throughout the Patents and, for ease of reference, we set forth these claims below and emphasize the claim terms presently in dispute.³

Claim 1 in the '456 Patent recites:

³ In light of the relationship among the three Patents, the parties agree that the claim terms should be construed consistently across the Patents. Cf. NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282, 1293 (Fed. Cir. 2005) ("Because [the] patents all derive from the same parent application and share many common terms, we must interpret the claims consistently across all asserted patents.") (collecting cases).

1. A monitoring process for monitoring the manufacture of a continuous web of paper having one or more predetermined characteristics in a paper manufacturing machine comprising:

a plurality of monitoring means which comprises one or more video cameras for monitoring the paper web, each monitoring means addressing the paper web at a different location of interest along the paper web at a different location of interest along the paper manufacturing machine and for producing a video image of the paper web at the location;

digital converting means for converting the video image into a digitized video signal;

digital data storage means for receiving said digitized video signal and storing digitized segments thereof, each of which comprises a plurality of digitized clips, said digitized segments and clips of a predetermined length covering real time operation of said machine, said digitized segments being stored such that earlier prior stored digitized data in said segment is removed as new digitized data is stored in said segment to maintain said stored segment at or about said predetermined length;

computer control means for controlling the operations of said monitoring system, said means in communication with said data storage means, said computer control means in communication with a distributive control system for controlling said machine, said control system having one or more deviation detectors for detecting deviations from predetermined characteristics as said paper web passes through said machine; and

one or more video monitors in communication with said computer control means and for displaying the image of digitized video

signals under the control of said computer control means;

wherein an occurrence of a deviation from the predetermined characteristics of said web, said distributive control system transmits a deviation signal comprising the time, date and location of said deviation event to said computer control means, and in response thereto said computer control means identifying the digitized data segment corresponding to said deviation event, extracting the deviation event clip, the preceding clip preceding said break event clip to form a display clip and displaying said display clip on a video monitor.

('456 Patent at col. 9, ll. 6-48.)

Claim 1 in the '905 Patent recites:

1. A monitoring system for continuously monitoring a process comprising:

a plurality of monitoring means for continuously monitoring a pre-determined characteristic of the process and collecting monitored data, each monitoring means addressing a different location of interest of said process, and capable of monitoring and collecting real time data relative to said location;

data converting means for converting said output data into digitized data;

digital data storage means capable of storing segments of said digitized data, each of said segments comprised of a plurality of digitized data clips, said segments and said clips of predetermined lengths which cover the operations of said process at a relevant location over a predetermined period of time, said digitized data segments being stored such that as new digitized data is stored in said segment, the earliest prior stored digitized data in

said segment is displaced from said segment to maintain said segment at said predetermined length; and

control means for controlling said monitoring system, said control means in communication with said digital data storage means and capable of extracting one or more digitized data clips according to predetermined criterion to form one or more extracted clips, and capable of displaying said extracted clips.

('905 Patent at col. 9, ll. 7-32.)

The parties seek construction of the following terms, many of which are emphasized above: "control means," "clip," "predetermined length," "extract," "form," "digital converting means," "library means," and "monitoring means."⁴

DISCUSSION

I. Applicable Law

Analysis of patent infringement involves two steps: first, the construction of the meaning and scope of the asserted claims; and second, the determination of whether the accused device infringes the claims, as construed. See Solvay S.A. v. Honeywell Int'l, Inc., 622 F.3d 1367, 1379 (Fed. Cir. 2010) (citing Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), aff'd 517 U.S. 370 (1996)). In this

⁴ At the Markman hearing, the term "displaced" was in dispute. Following the hearing, the parties agreed that the term "displaced" should be defined as "erased, deleted, or otherwise removed such that the storage space now contains the new data."

case, the parties have asked us to engage in the first step of the infringement analysis.

Claim construction is a question of law, see Markman v. Westview Instruments, Inc., 517 U.S. 370, 384 (1996), the purpose of which is to determine what is covered by an asserted claim. O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., 521 F.3d 1351, 1360 (Fed. Cir. 2008). In other words, "[t]he construction of claims is simply a way of elaborating the normally terse claim language in order to understand and explain, but not to change, the scope of the claims." Terlep v. Brinkmann Corp., 418 F.3d 1379, 1382 (Fed. Cir. 2005).

Before construing the claims at issue, we briefly review the sources of evidence that we may consider when interpreting the claims in the Patents as well as the general principles of claim construction that may be pertinent to our analysis.

A. Sources of Evidence

When construing a patent claim, a court may look to multiple sources, including "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." Phillips v. AWH Corp., 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc) (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

Although a court may consider each of these sources of evidence, certain sources may be more significant than others in determining the legally operative meaning of the claim language. See Phillips, 415 F.3d at 1317.

1. Intrinsic Evidence

The Federal Circuit often emphasizes the importance of so-called intrinsic evidence in claim construction. See Netcraft Corp. v. eBay, Inc., 549 F.3d 1394, 1397 (Fed. Cir. 2008); Phillips, 415 F.3d at 1317. Such evidence includes the claims themselves, the rest of the patent specification, and the prosecution history, if in evidence. See Terlep, 418 F.3d at 1382; Phillips, 415 F.3d at 1314-17.

The starting point for claim construction is the "ordinary and customary meaning" of the term. See Phillips, 415 F.3d at 1312-13. The "ordinary and customary meaning" is in turn defined as the meaning that a person having ordinary skill in the art would attribute to the term in the context of the patent. Id. at 1313. On occasion, "the ordinary meaning of claim language as understood by a person of skill in the art" will be sufficiently apparent that the claim language itself is all that is needed to construe the claims at issue. Id. at 1314. However, even when the terms in a claim are not self-

explanatory, "[t]he context in which a term is used in the asserted claim can be highly instructive." Id.⁵

Apart from the claims themselves, a patent consists of a written description of the patented invention, which is also referred to as the specification. Under the Patent Act, 35 U.S.C. §§ 1 et seq., the specification must describe the claimed invention in "full, clear, concise, and exact terms." 35 U.S.C. § 112, ¶ 1. Because of this statutory role, the specification "is always highly relevant to the claim construction analysis." Phillips, 415 F.3d at 1315-16. Accordingly, "claims must be read in view of the specification, of which they are a part." Id. at 1315.

The prosecution history of a patent, also part of the intrinsic record, "consists of the complete record of the proceedings before the [Patent and Trademark Office ("PTO")] and includes the prior art cited during the examination of the patent." Id. at 1317. Like the claims and the specification, "the prosecution history provides evidence of how the PTO and the inventor understood the patent," and accordingly, "can often inform the meaning of the claim language[.]" Id. However, "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the

⁵ Under current Federal Circuit law, there is no presumption that a dictionary definition provides the "ordinary" meaning of a claim term. See Phillips, 415 F.3d at 1320-21.

final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." Id.

2. Extrinsic Evidence

The Federal Circuit also authorizes the use of extrinsic evidence to facilitate claim construction. See Netcraft Corp., 549 F.3d at 1397; Phillips, 415 F.3d at 1317. As a general matter, extrinsic evidence "consists of all evidence external to the patent and prosecution history," including expert testimony, inventor testimony, dictionaries, and treatises. Phillips, 415 F.3d at 1317. However, unlike intrinsic evidence, extrinsic evidence is not part of "the indisputable public record." Id. As a result, the Federal Circuit has cautioned that putting too much weight on extrinsic evidence "poses the risk [of] . . . undermining the public notice functions of patents." Id. at 1318-19. Nevertheless, while extrinsic evidence is less important than intrinsic evidence, district courts are "authorized . . . to rely upon [it]." Id. at 1317.

B. Enablement Requirement

According to the Federal Circuit, the enablement requirement of section 112 of the Patent Act "frame[s] the issue" of claim interpretation for the court. See Phillips, 415 F.3d at 1311-12. That section provides, in relevant part, that:

[t]he specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains . . . and shall set forth the best mode contemplated by the inventor of carrying out his invention.

35 U.S.C. § 112, ¶ 1. The enablement requirement is satisfied "when one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation." Sitrick v. Dreamworks, LLC, 516 F.3d 993, 999 (Fed. Cir. 2008).

"Whether a claim satisfies the enablement requirement of 35 U.S.C. § 112, ¶ 1 is a question of law." Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc., 617 F.3d 1296, 1305 (Fed. Cir. 2010) (citing Sitrick, 516 F.3d at 999).

C. Definiteness Requirement

Under the Patent Act, the patent claims must "particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶ 2. The primary purpose of the so-called definiteness requirement is to provide notice to the public concerning the extent of the legal protection afforded by the patent so that members of the public can determine whether or not they are infringing upon the

patent. See All Dental Prodx, LLC v. Advantage Dental Prods., Inc., 309 F.3d 774, 779-80 (Fed. Cir. 2002).

Indefiniteness is an invalidity defense rooted in the above-mentioned statutory language. To successfully assert the defense, a party must overcome the "presumption of validity" of the patent that applies in this context by clear and convincing evidence. See Young v. Lumenis, Inc., 492 F.3d 1336, 1344-45 (Fed. Cir. 2007); Aero Prods. Int'l, Inc. v. Intex Recreation Corp., 466 F.3d 1000, 1015-16 (Fed. Cir. 2006). If a party meets this burden and establishes that a claim is indefinite, that claim is invalid. See Aero Prods., 466 F.3d at 1016.

D. Means-Plus-Function Claims

Special rules of claim construction apply when a patent claim falls within the scope of 35 U.S.C. § 112, ¶ 6, which provides that:

[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Claims expressed "as a means or step for performing a specified function" are typically called "means-plus-function" claims.

The use of the word "means" in a claim creates a presumption that 35 U.S.C. § 112, ¶ 6 applies. See Callicrate

v. Wadsworth Mfg., Inc., 427 F.3d 1361, 1368 (Fed. Cir. 2005). Once the court has concluded the claim limitation is a means-plus-function limitation, the Court must engage in a two-part inquiry. First, the court must identify the function of the limitation. JVW Enters., Inc. v. Interact Accessories, Inc., 424 F.3d 1324, 1330 (Fed. Cir. 2005); Altiris, Inc. v. Symantec Corp., 318 F.3d 1363, 1375 (Fed. Cir. 2003). Second, the court must identify the corresponding structure in the written description that is necessary to perform that function. JVW, 424 F.3d at 1330; Callicrate, 427 F.3d at 1368.

The requirement that a structure be identified "represents a quid pro quo by permitting inventors to use a generic means expression for a claim limitation provided that the specification indicates what structure(s) constitute(s) the means." Atmel Corp. v. Info. Storage Devices, Inc., 198 F.3d 1374, 1382 (Fed. Cir. 1999) (emphasis in original) (citing O.I. Corp. v. Tekmar Corp., 115 F.3d 1576, 1583 (Fed. Cir. 1997)).

Where the claimed function is implemented by a computer or microprocessor, the Federal Circuit has adopted specific rules concerning the disclosure of the corresponding structure. In particular, such a patent must describe the algorithm that enables the computer or processing device to execute the claimed function. See, e.g., Stamps.com Inc. v. Endicia, Inc., No. 2010-1328, 2011 WL 2417044, at *11-13 (Fed. Cir. June 15, 2011)

(unpublished opinion); Blackboard, Inc. v. Desire2Learn Inc., 574 F.3d 1371, 1384 (Fed. Cir. 2009); Net MoneyIN, Inc. v. Verisign, Inc., 545 F.3d 1359, 1367 (Fed. Cir. 2008); Aristocrat Techs. Australia PTY Ltd. v. Int'l Game Tech., Inc., 521 F.3d 1328, 1333 (Fed. Cir. 2008). The court in Aristocrat reasoned that such disclosure is necessary to satisfy the requirements of section 112 of the Patent Act. Specifically, the court stated that:

[b]ecause general purpose computers can be programmed to perform very different tasks in very different ways, simply disclosing a computer as the structure designated to perform a particular function does not limit the scope of the claim to 'the corresponding structure, material, or acts' that perform the function, as required by section 112 paragraph 6.

Aristocrat, 521 F.3d at 1333. Thus, "[f]or computer-implemented means-plus-function claims where the disclosed structure is a computer programmed to implement an algorithm, 'the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.'" Finisar Corp. v. DirectTV Grp., Inc., 523 F.3d 1323, 1340 (Fed. Cir. 2008) (quoting WMS Gaming Inc. v. Int'l Game Tech., 184 F.3d 1339, 1349 (Fed. Cir. 1999)).

This disclosure requirement is not especially onerous; rather, the Federal Circuit "permits a patentee to express that algorithm in any understandable terms including as a

mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure." Finisar, 523 F.3d at 1340 (internal citation omitted). However, it is clear that the patent may not simply recite that the function is carried out by a "computer" or "software." See id. at 1340-41; Aristocrat, 521 F.3d at 1334.

"If the specification is not clear as to the structure that the patentee intends to correspond to the claimed function, then the patentee has not paid the price but is attempting to claim in functional terms unbounded by any reference to structure in the specification." Aristocrat, 521 F.3d at 1333 (quoting Med. Instrumentation & Diagnostics Corp. v. Elekta AB, 344 F.3d 1205, 1211 (Fed. Cir. 2003)). As a result, when a structure is not disclosed in the specification, the claim limitation lacks specificity, rendering the claim as a whole invalid for indefiniteness under 35 U.S.C. § 112, ¶ 2. See Aristocrat, 521 F.3d at 1338; Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc., 412 F.3d 1291, 1302-03 (Fed. Cir. 2005).

With these legal principles in mind, we now turn to the specific construction issues raised by the parties.

II. Claims Subject to Construction

A. "Control Means"

The parties agree that the term "control means" is a means-plus-function claim, and that both the function and the

structure of the claim term must be identified. The parties propose different constructions of the corresponding function and structure. We address each in turn.

1. Function

According to Kobayashi, the Patents identify various functions associated with control means. These functions are: "controlling the monitoring system; extracting one or more digitized clips; forming an extracted clip; displaying the extracted clip; identifying data storage means containing digitized data segments; identifying the digitized data segment corresponding to the deviation event; identifying a video camera proximate to the deviation detector; splicing extracted clips into a display clip; zooming; edge enhancement; image sharpening; gradient edge enhancement; de-specking; filtering; cropping; de-sizing; dithering; interpolation; image intensity; format conversion; color inversion; contrast control; brightness control; and the like."

Carotek takes issue with Kobayashi's proposed function, opting instead to propose different functions for multiple variations of the term "control means."⁶ At the Markman hearing,

⁶ Carotek construes these variations as follows: it defines the function of "control means for extracting a deviation clip" as "to control the monitoring system by moving or copying the specific clip corresponding to a deviation event into a different storage location"; it defines the function of "control means for extracting one or more digitized data clips" as "to control the monitoring system by copying a clip into a different storage location"; it defines the function of "control means for extracting the deviation digitized

counsel for Carotek explained that the distinction between the proposed constructions is that Carotek's proposal focuses only on claim language whereas Kobayashi's proposal looks to the language of the claims and the specifications. (Aug. 8, 2011 Transcript ("Tr.") at 11-12.)

Viewing the Patents as wholly-integrated instruments, Phillips v. AWH Corp., 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc), we cannot adopt Carotek's more narrow definitions, which exclude functions plainly identified on the face of the Patents. (See, e.g., '456 Patent at col. 7, ll. 56-67, id. at col. 8, ll. 1-27.)

For these reasons, we will construe the function associated with control means to include the twenty-three functions identified by Kobayashi: "controlling the monitoring system;

data, the preceding digitized data, and the digitized data immediately following extracting said deviation digitized data in time or time and location" as "to control the monitoring system by copying the specific clip reflecting a deviation event, together with a different clip reflecting the monitoring system at an immediately preceding time or time and location, together with a different clip reflecting the monitoring system at an immediately following time or time and location, into a different storage location"; it defines the function of "control means is capable of extracting clips from segments stored in two or more of said plurality of said storage means" as "to control the monitoring system by copying at least one clip from one storage means and at least one clip from another storage means into a third, different storage location"; it defines the function of "computer control means for controlling the operations of said monitoring system" as "to control the entire monitoring system with a single computer"; it defines the function of "control means is capable of . . . splicing said extracted clips in chronological order to form a display clip" as "to control the monitoring system by joining multiple clips in chronological order into a single display clip"; and it defines the function of "computer control means identifies said digitized segment or said digitized image corresponding to said deviation or a combination thereof" as "to control the monitoring system by identifying the digitized segment and/or the digitized image corresponding to the deviation." (Joint Claim Construction and Prehearing Statement ("Joint S'mt"), Ex. B, dated Sept. 28, 2010.)

extracting one or more digitized clips; forming an extracted clip; displaying the extracted clip; identifying data storage means containing digitized data segments; identifying the digitized data segment corresponding to the deviation event; identifying a video camera proximate to the deviation detector; splicing extracted clips into a display clip; zooming; edge enhancement; image sharpening; gradient edge enhancement; de-specking; filtering; cropping; de-sizing; dithering; interpolation; image intensity; format conversion; color inversion; contrast control; and brightness control."

2. Structure

Kobayashi and Carotek vigorously dispute the structure associated with control means. Kobayashi contends that the above-mentioned functions are performed by a digital computer. ('456 Patent at col. 6, ll. 57-58 ("Illustrative of useful control means 20 are analog control system and a digital computer.").) Kobayashi further argues that the Patents disclose an algorithm, which may simply entail a collection of steps for performing the functions identified above. In support of its argument that the Patents disclose an algorithm, Kobayashi cites the following language from the specification:

On receipt of the deviation event signal, control means 20 is capable of identifying the clip most likely to have digitized data relating to the deviation event, and extracting such clip and displaying the

extracted clip with display means 26 For example, control 20 can scan all digitized data storage means 18, select clips from all means 18 containing data collected at the appropriate time and then can scan each clip to identify the deviation event and display same. Alternatively, control means 20 can identify the monitoring means 10 most proximate to the location of the deviation event, select a clip or clips from the digitized data storage means 18 for such monitoring means 10 and display such clip. In order to insure that all suitable data is displayed in the fastest possible time, preferably control means 20 will also extract digitized data clips immediately preceding and following the clip or clips most likely containing data for the deviation event and will splice the deviation event clip and the following and preceding clips into a display clip for display.

('905 Patent at col. 7, ll. 54-67; id. at col. 8, ll. 1-10; see also '456 Patent at col. 7, ll. 52-67; id. at col. 8, ll. 1-8.)

Kobayashi then offers the testimony of its expert witness, Dr. Robert Louis Stevenson, who declares that the above language adequately identifies the algorithm steps as: (1) identifying the clip most likely to have digitized data relating to the deviation event; (2) extracting the identified clip; and (3) displaying the extracted clip with the display means. Dr. Stevenson also declares that the Patents disclose various sub-steps for identifying the clip that contains the pertinent data (i.e., variations of step one). One variation entails: (i) scanning all digitized storage means, (ii) selecting clips from

all means containing data collected at the appropriate times; and (iii) scanning each clip to identify the deviation event. The second variation entails: (i) identifying the monitoring means most proximate to the location of the deviation event, and (ii) selecting a clip or clips from the digitized data storage means for such monitoring means. (Declaration of Robert Stevenson ("Stevenson Decl.") ¶¶ 24-27.)

Carotek agrees that the functions identified above may be performed by a digital computer. However, it argues, the Patents do not disclose an algorithm that sets forth a corresponding structure for each computer-implemented function.

We reject the sufficiency of Kobayashi's purported algorithm for three principal reasons. First, the language cited by Kobayashi simply describes the function to be performed, not the corresponding structure. In other words, the language describes "an outcome, not a means for achieving that outcome." Blackboard, Inc. v. Desire2Learn Inc., 574 F.3d 1371, 1384 (Fed. Cir. 2009) (citing Aristocrat Techs. Australia PTY Ltd. v. Int'l Game Tech., Inc., 521 F.3d 1328, 1334 (Fed. Cir. 2008)). Here, the ostensible algorithm not only paraphrases the functions of "control means," it actually restates those functions in nearly identical language.

For example, Claim 1 of the '456 Patent recites that the claimed invention comprises, among other things, "computer

control means identifying the digitized data segment corresponding to said deviation event, extracting said deviation event clip . . . and displaying said display clip on a video monitor." ('456 Patent at col. 9, ll. 44-48 (emphasis added).) Likewise, at Kobayashi's urging, we defined the function of control means to include "extracting one or more digitized clips; . . . displaying the extracted clip; [and] . . . identifying the digitized data segment corresponding to the deviation event." (Emphasis added.) By comparison, Kobayashi contends that the disclosed algorithm is: (1) identifying the clip most likely to have digitized data relating to the deviation event; (2) extracting the identified clip; and (3) displaying the extracted clip with the display means. (Stevenson Decl. ¶ 24.) Plainly, the use of the terms "identify," "extract," and "display" to describe the function to be performed undermines Kobayashi's argument that the very same language constitutes an algorithm that adequately discloses the structure associated with the claim term. Similarly, we cannot conclude that the various sub-steps (i.e., scanning and selecting) make the disclosed structure any more adequate.

Second, we reject Kobayashi's contention that Dr. Stevenson's testimony establishes that the disclosures are sufficient. (See Stevenson Decl. ¶ 27 ("These steps would be easily identified by one of skill of the art as performing the

identified function. Additionally, one of skill of the art would be able to easily implement these steps without undue experimentation.".) However, Kobayashi's arguments amount to little more than the contention that one of ordinary skill in the art would be able to make and use the invention, an argument that the Federal Circuit has repeatedly rejected as conflating the enablement requirement of section 112, paragraph 1 and the structure requirement of section 112, paragraph 6. See, e.g., Blackboard, 574 F.3d at 1384-85; Aristocrat, 521 F.3d at 1336-38. Indeed, "[t]he question before us is whether the specification contains a sufficiently precise description of the 'corresponding structure' to satisfy section 112, paragraph 6, not whether a person of skill in the art could devise some means to carry out the recited function." Blackboard, 574 F.3d at 1385. For the reasons discussed above, these Patents lack a satisfactory disclosure of the corresponding structure, and Dr. Stevenson's testimony does not alter our conclusion.

Third, the Patents do not disclose a structure that corresponds to each of the identified functions. Indeed, many of the functions identified by Kobayashi and adopted by the Court contain no corresponding structure and Kobayashi does little to advance the argument that such structure exists. Indeed, at the hearing, Kobayashi stated that the structure is wholly contained in portion of the Patents cited above. (Tr. at

19; see also '456 Patent at col. 7, ll. 52-67; id. at col. 8, ll. 1-8.) However, it is clear that the language therein concerning identifying, extracting, and displaying does not even purport to describe a structure for functions such as controlling the monitoring system, identifying a video camera proximate to the deviation detector, zooming, and image sharpening.

Accordingly, we conclude that the Patents do not satisfy the statutory requirement that the associated structure be identified.

B. "Clip"

The parties also dispute the definition of the claim term "clip." According to Kobayashi, the term is expressly defined in the patent specification, which provides that: "[a]s used herein, 'clip' means a digitized data series for a location of a process during a pre-determined period of time." ('456 Patent at col. 2, ll. 24-26.) Kobayashi contends that there is no justification for departing from the language used in the Patents.

Carotek agrees that the specification contains the language quoted above, but contends that a clip must be defined as "a digitized data series for a location of a process during a pre-determined period of time, i.e., a period of time determined before the clip is created." (Emphasis added.) According to

Carotek, the latter clause is critical because, without it, the length of the clip could be determined at any time, thus eliminating the requirement that the duration of the clip be predetermined.

At the hearing, counsel for Kobayashi explained that an operator of the system inputs the parameters for the duration of clip prior to operating the system. However, although the parameters are pre-set, the ultimate duration of a clip is not necessarily fixed and may turn on the occurrence of certain contingencies. (Tr. at 32-36.) Kobayashi's explanation is consistent with the language in the specification that recites that: "[t]he pre-determined length of the segment and the clips may vary widely initially and during the operation of the system, usually depending on the function and capacity of the digital data storage means, duration of the deviation event and the like." ('456 Patent at col. 6, ll. 32-36.) Thus, in reality, both parties agree that the parameters for a clip are determined before the system is operated.

Although Carotek's proposed construction may provide added clarity, because the patentee acted as its own lexicographer and clearly set forth a definition of the disputed claim term, the definition in the specification controls. See, e.g., Edwards Lifesciences LLC v. Cook Inc., 582 F.3d 1322, 1329 (Fed. Cir. 2009) ("[W]e will adopt a definition that is different from the

ordinary meaning when the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification or prosecution history.") (internal quotations omitted) (citing CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366-67 (Fed. Cir. 2002)).

For these reasons, we define "clip" to mean "a digitized data series for a location of a process during a pre-determined period of time."

C. "Predetermined Length"

Similarly, the parties dispute the definition of "predetermined length." Kobayashi, citing a general-purpose dictionary, contends that predetermined length should be construed as "a period of time decided on in advance."

By contrast, Carotek proposes that the term be construed as "a length that is determined before data is written to the clip or segment." In response, Kobayashi argues that there is nothing in the Patents that require the term to be construed in this fashion.

Carotek's proposed definition comes close to setting forth the ordinary meaning of the term. However, the proposal is not wholly adequate because it lends itself to the conclusion that all clips will be the same length, a conclusion that is inconsistent with the language of the Patents, which expressly provides that "the pre-determined length of the segment and the

clips may vary widely initially and during the operation of the system" ('456 Patent at col. 6, ll. 32-36.) Kobayashi's proposal is also close to the ordinary meaning, but is ambiguous concerning the point at which the length is determined. As noted in connection with the analysis of the term "clip, an appropriate construction of the term "predetermined length" should reflect that parameters are set before data is written and that the length of the clip is not static.

Thus, we construe the term "predetermined length" to mean "a length that is determined before data is written to the clip or segment, but that may vary according to pre-set parameters."

D. "Extract"

The next disputed term is "extract." Kobayashi contends that the ordinary meaning of the term extract should apply and proposes that we adopt the definition of "to take by selection."

Carotek proposes an alternate definition of "to move or copy into a different storage location." According to Carotek, the Patents involve a process that stores digitized data in a memory buffer, which is continuously reused on a first-in-first-out basis. According to Carotek, if extraction did not entail moving and copying, then the desired data would be overwritten by new data, eliminating the value of the claimed invention.

Kobayashi, relying on its expert, contends that nothing in the Patents limits extraction to moving or copying. Instead,

Kobayashi argues that moving and copying represent only a subset of the ways to extract data, and that extraction can also be accomplished through denoting the start and stop point of a clip or by renaming the file. (Stevenson Decl. ¶ 28.) At the hearing, Kobayashi further argued that any definition should incorporate the concept of removing a clip for the purpose of protecting or preserving the data contained therein. (Tr. at 41-42.)

We believe that Kobayashi's initial proposal, "to take by selection," is unworkable for three reasons. First, throughout the Patents, the term "extract" is used to describe the process of removing a clip from a segment so that the data contained on the clip does not get automatically overwritten by newly-digitized data. Kobayashi's initial proposal does not adequately reflect the concept of preservation of the clip. Second, throughout the Patents, the term extract is followed by the word "from," signaling that the data is being removed from the rewriteable memory buffer. Again, if we were to construe this term as "to take by selection," we would not attribute to the term its ordinary meaning in the context of the words around it. Third, we agree with Carotek that the Patents use the terms "identify" and "extract," and that if we were to adopt the construction "to take by selection," we would equate "extract"

with "identify," which would deprive the latter term of a unique meaning in the Patents.

Although we reject Kobayashi's initial proposal, we agree that its proposal at the Markman hearing -- "to remove" -- appropriately reflects the ordinary meaning of the term in light of the Patents as a whole. (Tr. 41-42.) This definition adequately addresses the concern raised by both parties that "extract" be construed in a fashion that reflects the concept of data preservation. Moreover, adopting this definition avoids the hazard of limiting the claim term to two ways of extraction -- moving and copying -- when the Patents contain no such limitation.

Accordingly, we define "extract" as "to remove."

E. "Form"

Next, the parties disagree on the proper construction of the term "form." Kobayashi contends that the proper definition is "to construct or frame." It argues that in the context of the Patents, to "form" is simply the process of constructing a display clip out of a stored clip or clips, including, for example, the deviation event and the preceding clip. According to Kobayashi, the process of forming a clip can involve constructing a file or accessing multiple clips and displaying them as one.

Carotek contends that to "form" means "to create a new display clip." In support of its construction, Carotek points to various instances in which the specification refers to "splicing" clips to form a display clip. ('456 Patent at col. 2, ll. 54-61 ("the control means is capable of extracting the event clip recording said event and the clip immediately preceding said event clip . . . splicing said clips in chronological order to form a display clip . . ."); id. at col. 3, ll. 16-21 ("the control means is capable of extracting the event clip recording said event and the clips immediately preceding and optionally the clip immediately following said event clip, splicing said clips into a display clip . . .").) According to Carotek, the reference to "splicing" underscores that the process of forming a display clip involves joining multiple clips together to form a new display clip.⁷

We agree with Carotek that Kobayashi's definition is not viable and fails to capture the ordinary meaning of the term. However, we also agree with Kobayashi that the Patents expressly state that display clips may be formed by one or more clips, (see, e.g., id. at col. 10, ll. 46-56; id. at col. 10, ll. 65-67; '905 Patent at col. 9, ll. 27-32) and that Carotek's inclusion of the word "new" in its proposal is inconsistent with

⁷ The parties agree that the term "splicing" should be defined as "joining together." (Joint S'mt Ex. A.)

the situation where a display clip is formed from a single digitized data clip. Accordingly, the ordinary and customary meaning of the term "form" must accommodate the scenario where a display clip is created by joining multiple digitized data clips together and the scenario where simply one digitized data clip is selected for display.

Thus, we define "form" to mean "to create or isolate a display clip."

F. "Digital Converting Means"

The parties agree that the term "digital converting means" is a means-plus-function claim, and that both the function and the structure of the term must be identified. The parties agree that the function of "data converting means" should be construed as "converting data obtained or generated by monitoring means into a digital format." Thus, the disputed issue is whether the Patents disclose a corresponding structure.

1. Structure

According to Kobayashi, the patent specification discloses a variety of structures associated with digital converting means. Specifically, the Patents disclose that "suitable digital converting means are electronic circuit boards, converting signal processors, video boards, micro-chips, and assorted software." ('456 Patent at col. 5, ll. 39-41.) Kobayashi contends that additional disclosure of a specific

algorithm is not required because none of the disclosed structures is a general purpose computer or microprocessor. (Stevenson Decl. ¶ 31.)

By contrast, Carotek contends that circuit boards, converting signal processors, video boards, and micro-chips are general-purpose computing hardware that require additional disclosure under Aristocrat and its progeny. Likewise, Carotek contends that the term "assorted software" requires additional disclosure. According to Carotek, the Patents fail to disclose the necessary algorithm.

Here, the intrinsic evidence does little to further either party's position concerning whether or not the disclosed structure is general-purpose computing hardware. Furthermore, the record before us includes little more than a conclusory statement by Kobayashi's expert that the structure is not general-purpose computing hardware, (Stevenson Decl. ¶ 31 ("None of these structures is a general purpose computer or microprocessor and, as such, there is no need to disclose any algorithm . . .")), and an equally conclusory argument by Carotek's counsel that we should draw the opposite conclusion. In light of the record before us, we cannot conclude that the terms "electronic circuit boards, converting signal processors, video boards, [and] micro-chips" are general-purpose hardware that require additional disclosure. Cf. Med. Instrumentation &

Diagnostics Corp. v. Elekta AB, 344 F.3d 1205, 1209-11 (Fed. Cir. 2003) (affirming in part the district court's construction of the a means-plus function claim and concluding that "flamegrabber video display board" and "computer video processor" constituted adequately disclosed structures); PSC Inc. v. Accu-Sort Sys., Inc., 106 F.3d 427, 1997 WL 16033, at *2-3 (Table) (Fed. Cir. Jan. 17, 1997) (unpublished opinion) (affirming the district court's construction of means-plus-function claims and impliedly agreeing that "printed circuit board" constituted adequately disclosed structures). However, we cannot conclude that "assorted software" is an adequate disclosure of the corresponding software, see Finisar Corp. v. DirecTV Grp., Inc., 523 F.3d 1323, 1340-41 (Fed. Cir. 2008), especially where, as here, the reference is wholly untethered to any detail concerning the nature of that software.

Accordingly, we construe the structure of "digital converting means" to be "electronic circuit boards, converting signal processors, video boards, and micro-chips." However, should a more fulsome record undermine this conclusion, we reserve the option to modify it.

G. Library Means

Again, the parties agree that the claim term "library means" is a means-plus-function claim that is governed by 35 U.S.C. § 112, ¶ 6. Accordingly, the patent must specify both

the function and the structure of the claim. Here, the parties propose different definitions for both the function and the structure of "library means."

1. Function

Kobayashi takes the position that the function is expressly defined in the claims of the '990 and '905 Patents as "storage of [data] display clips and process data relating to operation of the machine" and "providing for display of stored display clips and process data." ('990 Patent at col. 10, ll. 15-19; '905 Patent at col. 10, ll. 27-31.)

Carotek takes the position that the function of library means is "to permit quick selection and retrieval of clips and process data using a repository designed for this purpose." In support of its proposed construction, Carotek quotes language from the specification of the '456 Patent, which provides that clips are conveyed to a library for storage, and in so doing, "a collection of deviation clips and associated process data is formed which can be accessed by remote access . . . for suitable purposes as for example for accessing, and correlating or otherwise evaluating accessed data . . ." ('456 Patent at col. 8, ll. 47-58.)

We agree with Kobayashi that the claim language provides an appropriate baseline for the ordinary and customary definition of the function of library means. We also agree with Kobayashi

that Carotek's insertion of the concept of "quick" selection and retrieval of clips is not moored to the language of the Patents. However, at the Markman hearing, Kobayashi agreed that the function of library means should include the concept of facilitating the retrieval of stored data, in addition to the concepts of "storage" and "providing for display" that are identified in the claims. (Tr. 30-31.)

Accordingly, we construe the function of library means to be "to store data display clips and process data relating to operation of the machine; to permit retrieval of data display clips and process data; and to provide for display of stored display clips and process data."

2. Structure

According to Kobayashi, the Patents disclose the structure of library means in the specification. Specifically, the Patents recite that: "[t]he clips relating to the deviation event together with any other process data associated with the deviation event are conveyed via line 34 to library 32 for storage. In this manner, a collection of deviation clips and associated process data is formed which can be accessed by remote access" ('905 Patent at col. 8, ll. 49-53; '456 Patent at col. 8, ll. 47-51.) Thus, Kobayashi contends that the associated structure is a "library" and that this disclosure

would enable one skilled in the art to understand that this means the organized storage and accessing of data.

Carotek argues that no structure is identified in the Patents, and that the disclosed structure merely recites the function of "library means."

We agree with Carotek that the Patents do not adequately disclose the structure associated with library means. The quoted portion of the patent specification merely repeats the claimed function, namely storing data and facilitating access to data. Such paraphrasing is not enough to satisfy the statutory requirement that the specification contain a specific description of the corresponding structure.

H. "Monitoring Means"

The final term for construction is "monitoring means," which the parties agree is a means-plus-function claim that requires analysis pursuant to 35 U.S.C. § 112, ¶ 6. The parties also agree that the function of monitoring means is "monitoring a process, collecting monitored data." However, the parties disagree on the proper construction of the related structure.

1. Structure

Here, the actual dispute is narrow. Kobayashi construes the structure as "video camera, visual monitors, infrared radiation monitors, coherent or non-coherent visual monitors, gamma monitors, ultraviolet monitors, thermal and nuclear

radiation monitors, sonic monitors, ultrasonic monitors, magnetic field monitors, pressure monitors, and odor monitors." This definition, Kobayashi argues, is derived directly from the language of the patent specification. ('456 Patent at col. 5, ll. 1-4.)

Carotek's proposed definition is "camera (including video camera), visual monitor, infrared radiation monitor, coherent or non-coherent visual monitor, gamma monitor, ultraviolet monitor, thermal and nuclear radiation monitor, sonic monitor, ultrasonic monitor, magnetic field monitor, pressure monitor, odor monitor, and the equivalent structures." (emphasis added).

In support of its contention that the "camera (including video camera)" formulation was correct, Carotek argues that the specification includes: (1) specific references to structures that are not video cameras (i.e., infrared monitors); and (2) references to cameras generally. The first argument is not persuasive because each of the structures that Carotek identifies as a non-video camera is already included the agreed portions of the proposed definitions. The second argument, however, is persuasive: although the specification refers to "video cameras" as the preferred embodiment of monitoring means, the specification includes multiple references to the use of cameras, rather than video cameras. (See '456 Patent at col. 5, ll. 17-22 ("In the preferred embodiment of this invention

depicted in FIG. 1, monitoring means is a plurality of video cameras 10. While seven cameras 10 are depicted in the figure, the number of cameras employed may vary widely . . ."); id. at col. 5, ll. 24-30 ("In the preferred embodiment . . . the number of cameras 10 and camera positions are such that locations where breaks are most likely to occur are covered.".) We thus agree with Carotek that the formulation "camera (including video camera)" is appropriate.

However, we do not agree that the "equivalent structures" language should be expressly included in the definition of the claim term. Both parties agree that the equivalent structures language is derived from section 112, paragraph 6 of the Patent Act. However, we agree with Kobayashi that the identification of equivalent structures is an analytical step that is distinct from the identification of structure in the specification and is more appropriately reserved for an infringement analysis. Cf. Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co., 520 U.S. 17, 27-28 (1997) ("equivalents" language of paragraph 6 is an "an application of the doctrine of equivalents in a restrictive role"); Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1267-68 (Fed. Cir. 1999) (explaining the equivalents analysis under § 112, ¶ 6).

Accordingly, we construe the structure of "monitoring means" to be "camera(s) (including video camera(s)), visual

monitor(s), infrared radiation monitor(s), coherent or non-coherent visual monitor(s), gamma monitor(s), ultraviolet monitor(s), thermal and nuclear radiation monitor(s), sonic monitor(s), ultrasonic monitor(s), magnetic field monitor(s), pressure monitor(s), and odor monitor(s).⁸"


CONCLUSION

For the foregoing reasons, we adopt the aforementioned constructions of the disputed claims.

Following the entry of this Memorandum and Order, the parties shall proceed with discovery and briefing in accordance with the case management order, dated April 15, 2010, as amended at the Markman hearing on August 8, 2011. In addition, the parties shall appear telephonically for a status conference on October 6, 2011 at 2:30 p.m. If there is no need for a status conference at that time, the parties shall advise the Court in advance.

⁸ The parties do not contend that there is a principled distinction between Kobayashi's use of the plural throughout its proposal and Carotek's use of the singular throughout its proposal. We adopt the above formulation because it is consistent with the claim language, which envisions the use of "a plurality" of monitoring means and which may consist of one or more of any given monitoring device. (See, e.g., '456 Patent at col. 9, ll. 5-11 ("What is claimed is: 1. A monitoring system . . . comprising a plurality of monitoring means which comprises one or more video cameras . . .").)

Dated: New York, New York
September 8, 2011


NAOMI REICE BUCHWALD
UNITED STATES DISTRICT JUDGE

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